Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1. (Withdrawn) A rotary tap changer connected to a power source to control voltage supplied from the power source to a load, the rotary tap changer comprising:

a motor having an output device;

a drive sprocket having a drive shaft positioned perpendicularly to a plane of rotation of the drive sprocket;

a gear engaged by the drive shaft;

a first set of movable contacts coupled to the gear and mounted to conductively engage taps of an electrical control device; and

a transmission device coupled to the motor output device sprocket and to the drive sprocket such that the motor directly drives the first set of movable contacts for selecting an electrical control device tap.

Claim 2. (Withdrawn) The rotary changer of claim 1 further comprising a motor sprocket attached to the motor output device, in which the transmission device couples to the motor output device through the motor sprocket.

Claim 3. (Withdrawn) The rotary tap changer of claim 2 in which a ratio of drive sprocket teeth relative to motor sprocket teeth is between around 5:1 and 9:1.

Claim 4. (Withdrawn) The rotary tap changer of claim 2 in which the transmission device comprises a chain for engaging the drive sprocket teeth and the motor sprocket teeth.

Claim 5. (Withdrawn) The rotary tap changer of claim 1 in which the gear comprises a geneva gear.

Claim 6. (Withdrawn) The rotary tap changer of claim 1 in which the drive sprocket and the gear are configured such that a 360° rotation of the drive sprocket produces a 20° rotation of the gear.

Claim 7. (Withdrawn) The rotary tap changer of claim 1 further comprising:

a first panel;

a second panel positioned to be parallel with the first panel; and

a support shaft attached to the first panel and to the second panel to define an axis that is perpendicular to a plane of the first and second panels.

Claim 8. (Withdrawn) The rotary tap changer of claim 7 in which the support shaft supports the gear.

Claim 9. (Withdrawn) The rotary tap changer of claim 7 further comprising a second shaft attached to the first panel to define a second axis that is perpendicular to the plane of the first and second panels such that the second shaft supports the drive sprocket.

Claim 10. (Withdrawn) The rotary tap changer of claim 1 further comprising:

a pivoting member coupled to a drive pin attached to the gear;

a reversing switch configured to conductively engage a neutral tap of the electrical control device;

a second set of movable contacts coupled to the pivoting member to engage the reversing switch.

Claim 11. (Withdrawn) The rotary tap changer of claim 10 in which the pivoting member operates to select a polarity of a voltage from the electrical control device.

Claim 12. (Withdrawn) The rotary tap changer of claim 10 in which the pivoting member comprises a safety switch that trips open an electrical circuit that energizes the motor when the first set of movable contacts reaches a travel limit position.

Claim 13. (Withdrawn) The rotary tap changer of claim 12 in which the motor is prevented from re-energizing in a current direction of travel when the safety switch trips open the electrical circuit.

Claim 14. (Withdrawn) The rotary tap changer of claim 1 further comprising a holding switch connected to the drive shaft and electrically connected to the motor.

Claim 15. (Withdrawn) The rotary tap changer of claim 14 further comprising a control apparatus connected to the holding switch to send a signal through a first path to the motor and to interrupt the signal through the first path when the holding switch closes to establish a second path for selecting the electrical control device tap based on an output of the power source.

Claim 16. (Withdrawn) The rotary tap changer of claim 15 in which the holding switch is actuated by the drive shaft to maintain continuous power to the motor from another power source to ensure that the rotary tap changer completes a selection of the electrical control device tap after the control apparatus sends the signal to the motor.

Claim 17. (Withdrawn) The rotary tap changer of claim 16 in which the other power source is the power source that supplies voltage to the load.

Claim 18. (Withdrawn) The rotary tap changer of claim 16 in which the holding switch is opened after a predetermined rotation of the drive shaft to de-energize the motor during selection of the electrical control device tap.

Claim 19. (Withdrawn) The rotary tap changer of claim 14 in which the holding switch is in series with the safety switch.

Claim 20. (Withdrawn) The rotary tap changer of claim 1 in which the drive sprocket engages a device remote from the tap changer to indicate the selected electrical control device tap.

Claim 21. (Withdrawn) The rotary tap changer of claim 20 further comprising:

a second gear having an axis of rotation that is parallel to an axis of rotation of the drive sprocket, the second gear engaged by an output shaft of the drive sprocket; and

a pinion that rotates in response to rotation of the second gear to engage the device.

Claim 22. (Withdrawn) The rotary tap changer of claim 21 in which the pinion comprises a biasing device that engages the second gear to stabilize the second gear.

Claim 23. (Withdrawn) The rotary tap changer of claim 22 in which the second gear comprises a slot positioned on an outer perimeter such that the biasing device engages the slot to stabilize the second gear.

Claim 24. (Withdrawn) The rotary tap changer of claim 1 in which the first set of movable contacts moves from a first tap to a second tap in response to a variation in the voltage measured by a control apparatus coupled to the power source and to the load.

Claim 25. (Withdrawn) The rotary tap changer of claim 24 in which the first set of movable contacts moves from the first tap to the second tap in a transfer time.

Claim 26. (Withdrawn) The rotary tap changer of claim 25 in which the transfer time corresponds to one and a half cycles of a frequency of the power source.

Claim 27. (Withdrawn) The rotary tap changer of claim 25 in which the movable contacts, motor, motor output device, drive sprocket, and the gear are configured such that at least three current zeros occur during the transfer time.

Claim 28. (Withdrawn) The rotary tap changer of claim 25 in which the transfer time is less than one second.

Claim 29. (Withdrawn) The rotary tap changer of claim 25 in which the transfer time is less than 500 milliseconds.

Claim 30. (Withdrawn) The rotary tap changer of claim 1 further comprising a pinion attached to the motor output device, in which the transmission device comprises a spur gear integral with the drive shaft and meshing with the pinion of the motor output device.

Claim 31. (Withdrawn) The rotary tap changer of claim 1 further comprising a brake assembly coupled to the drive sprocket to stop the drive sprocket after the first set of movable contacts engages the electrical control device tap.

Claim 32. (Withdrawn) A rotary tap changer comprising:

a motor having an output device;

a drive sprocket coupled to the motor output device;

a gear engaged by the drive sprocket;

a first set of movable contacts coupled to the gear and mounted to conductively engage a tap of an electrical control device when the motor provides a force to rotate the drive sprocket; and

a brake assembly coupled to the drive sprocket to stop the drive sprocket after the first set of movable contacts engages the electrical control device tap.

Claim 33. (Withdrawn) The rotary tap changer of claim 32 in which the brake assembly includes:

a disc segment that is integral with the drive sprocket and rotates with the drive sprocket; and

a stationary brake assembly.

Claim 34. (Withdrawn) The rotary tap changer of claim 33 in which the stationary brake assembly includes brake lining strips opposing each other to define a plane that is coplanar with and centered on the disc segment.

Claim 35. (Withdrawn) The rotary tap changer of claim 34 in which the brake lining strips are placed under compression by a force and engage the disc segment when the disc segment passes between them.

Claim 36. (Withdrawn) The rotary tap changer of claim 35 in which the brake lining strips disengage the disc segment when the disc segment does not pass between them.

Claim 37. (Withdrawn) The rotary tap changer of claim 32 in which the drive sprocket comprises a drive shaft positioned perpendicularly to a plane of rotation of the drive sprocket and the gear is engaged by the drive shaft.

Claim 38. (Withdrawn) The rotary tap changer of claim 37 further comprising a transmission device coupled to the motor output device and to the drive sprocket such that the

motor directly drives the first set of movable contacts for selecting an electrical control device tap.

Claim 39. (Withdrawn) A rotary tap changer connected to a power source to control voltage from the power source to a load, the rotary tap changer comprising:

a motor having an output device;

a drive sprocket having a drive shaft positioned perpendicularly to a plane of rotation of the drive sprocket;

a gear engaged by the drive shaft;

a first set of movable contacts coupled to the gear and mounted to conductively engage a tap of an electrical control device when the motor provides a force to rotate the drive sprocket;

a transmission device coupled to the motor output device and to the drive sprocket such that the motor directly drives the first set of movable contacts for selecting an electrical control device tap; and

a brake assembly coupled to the drive sprocket to stop the drive sprocket when the first set of movable contacts engages the electrical control device tap.

Claim 40. (Original) A method of selecting a tap connected to an electrical control device for controlling voltage from a power source to a load, the method comprising:

receiving a signal from a control apparatus coupled to the power source to select a tap;

energizing a motor coupled to the control apparatus and having an output device;

rotating the motor output device in response to the energization of the motor;

providing a transmission device coupled to the motor output device and to a drive sprocket;

driving the drive sprocket through the transmission device in response to rotation of the motor output device;

rotating a gear in response to driving the drive sprocket, the gear engaging a first set of movable contacts;

rotating the first set of movable contacts in response to rotation of the gear to select the tap connected to the electrical control device.

Claim 41. (Original) The method of claim 40 further comprising closing a holding switch connected to couple the power source to the motor to maintain continuous power to the motor from the power source to ensure that the tap is selected after the signal from the control apparatus is received.

Claim 42. (Original) The method of claim 41 further comprising opening the holding switch after a predetermined rotation of the drive shaft to de-energize the motor to select the electrical control device tap.

Claim 43. (Original) The method of claim 40 further comprising actuating a pivoting member coupled to the gear to change a polarity of the voltage through the tapped section of the electrical control device.

Claim 44. (Original) The method of claim 43 further comprising forming an anti-arcing bridge between a neutral tap and a second set of movable contacts connected to one end of a winding of the electrical control device.

Claim 45. (Original) The method of claim 44 further comprising de-energizing the motor when the first set of movable contacts reaches a travel limit position.

Claim 46. (Original) The method of claim 40 further comprising engaging the drive sprocket to prevent the drive sprocket from moving when the electrical control device tap is selected.

Claim 47. (Original) The method of claim 40 further comprising actuating a device remote from the motor and the gear to indicate the selected electrical control device tap.

Claim 48. (Original) The method of claim 47 in which actuating the remote device comprises engaging a second gear by an output shaft of the drive sprocket to rotate a pinion coupled to the remote device.

Claim 49. (Original) The method of claim 48 further comprising stabilizing the second gear with a biasing device attached to the pinion and engaging a slot along an outer perimeter of the second gear.